UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,690	09/29/2003	Alexander Chee	60085.0002US01	1298

7590 07/07/2004

Morris Manning & Martin LLP
1600 Atlanta Financial Center
3343 Peachtree Road NE
Atlanta, GA 30326-1044

EXAMINER	
NGUYEN, PHUONGCHI T	

ART UNIT	PAPER NUMBER
2833	

DATE MAILED: 07/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/673,690	CHEE, ALEXANDER	
	Examiner	Art Unit	
	Phuongchi Nguyen	2833	

-- The MAILING DATE of this communication appears on th cover sh t with the correspond nce address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *20 and 21* is/are allowed.

6)☒ Claim(s) *1-7 and 11-17* is/are rejected.

7)☒ Claim(s) *8-10,18 and 19* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
☒ Attachments 3 pages
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 5, 6 and 11 are objected to because of the following informalities:

Claim 5, line 1, "the second sealing member" should be changed to -- a third sealing member – (because claim 5 depends on claim 4; and claim 4 already has a second sealing member).

Claim 6, lines 3-4, it is unclear of the relationship of the first diameter and any other diameters such as d1, d2 arranged in the claimed.

Claim 11, line 9, "the interior space" lacks proper antecedent basis.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holland et al (US6217383B1) in view of Langham et al (US6210222B1).

In regarding to claim 1, Holland et al discloses (attachment 1) a fitting member for connecting a coaxial cable having an electrically conductive member to a second electrically conductive member, comprising

a. a connector body (16) having a first end (A), an opposite second end (B), a cylindrical body (of 16) defined between the first end (A) and the second end (B), and

b. an outer tube (21) having a first end (D) and an opposite second end (E) defining a body (of 21) therebetween and a clamp head (F) inwardly projecting away from the first end (D),

wherein the body (of 21) has an outer diameter (of 21) and is sized to fit into the first end (A) of the connector body (16) by the second end (E) of the outer tube (21);

c. an inner tube (35) having a neck portion (36), a first shoulder (H) extending from the neck portion (36), a second shoulder (K) extending from the first shoulder (H) and a sleeve (38) extending from the second shoulder (K) defining a tube body (of 35), wherein the second shoulder (K) has a diameter (d2) sized to engage with the clamp head (F) of the outer tuber (21), and the first shoulder (H) has a diameter (d3) greater than the diameter (d2) of the second shoulder (K) so as to form a first step (M) at the junction of the first shoulder (H) and the second shoulder (K) for limiting the axial motion of the clamp head (F), and the tube body (of 35) has an inner diameter (d0), and is sized to receive a free end of the electrically conductive member (11) of the coaxial cable therethrough; and

d. a sleeve tube (14) insertable into the connector body (16) for holding the coaxial cable.

Holland et al lacks an annular recess. However, Langham et al teaches an annular recess (C11) formed on an outer surface of the cylindrical body (34A) proximate to the second end (B11) (attachment 2). It would have been obvious to one having ordinary skill at the time the invention was made to modify the outer surface of the cylindrical body of Holland et al by providing an annular recess as taught by Langham et al on the cylindrical body for having ribs to hold the outer connector.

In regarding to claim 2, Holland et al discloses (attachment 1) the fitting member further comprising a connector head (15) having a neck portion (N), a body (of 15) extending from the neck portion (N), and a clamp ring (Q) inwardly projecting away from an inner surface (of body 15) of the body (of 15) at a predetermined position, wherein the clamp ring (Q) is sized to fit to

the first shoulder (H) of the inner tube (35) such that the connector head (15) is rotatable around an axis of the inner tube (35).

In regarding to claim 3, Holland et al discloses (attachment 1) the exterior of the body (of 15) is formed with a plurality of hexagonal surfaces (figure 7).

In regarding to claim 4, Holland et al discloses (attachment 1) the fitting member further comprising a first sealing member (41) and a second sealing member (42), wherein the first sealing member (41) is positioned therebetween the neck portion (36) of the inner tube (35) and an inner surface of the body (of 15) of the connector head (15). Holland et al lacks a second sealing member is positioned therebetween the first shoulder of the inner tube and an inner surface of the body of the connector head. It would have been obvious to one having ordinary skill at the time the invention was made to place the second sealing member of Holland et al at the location therebetween the first shoulder of the inner tube and an inner surface of the body of the connector head for preventing air or water leaking inside the connector.

In regarding to claim 5, Holland et al discloses the invention, but lacks a third sealing member is positioned therebetween the first end of the outer tube and the clamp ring of the connector head. However, it would have been obvious to one having ordinary skill at the time the invention was made to place the third seal member of Holland et al at the location therebetween the first end of the outer tube and the clamp ring of the connector head for preventing air or water leaking inside the connector.

In regarding to claim 6, Holland et al discloses the fitting member wherein each of the first sealing member (41) and the second sealing member (42) comprises an O-ring (column 5, line 23).

In regarding to claim 7, Holland et al discloses the fitting member wherein the connector body (16) has an inner conical portion (P) proximate to the second end (B) and extending toward to the second end (B) from a first diameter (d4) (substantially) at least as great as the outer diameter (d1), of the outer tube (21); the second diameter (d2) substantially corresponding to an outer diameter of the coaxial cable (10) (attachment 1).

4. Claims 11-14 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holliday (US6089913).

In regarding to claim 11, Holliday discloses (attachment 3) a fitting member for connecting a coaxial cable having an electrically conductive member to a second electrically conductive member, comprising

a connector body (22) having a first end (A1), an opposite second end (B1), a cylindrical body (of 22) defined between the first end (A1) and the second end (B1), and an annular bulge (56) outwardly projecting away from an inner surface of the cylindrical body (of 22) and proximate to the first end (A1);

an outer tube (28) having a cylindrical body (40), wherein the cylindrical body(40) has an inner diameter sized to receive a free end of the coaxial cable (100) therein and an outer diameter and is sized to fit into an interior space (C1) defined by the cylindrical body (of 22) of the connector body (22), a neck portion (D1) extending from the cylindrical body (40), and an annular groove (60) formed on an outer surface of the cylindrical body (40) at a predetermined position such that when the outer tube (28) is inserted into the connector body (of 22) from the first end (A1), the bulge (56) is received in and engaged with the groove (60) of the cylindrical body (40) so as to limit the relative axial motion of the connector body (22) and the outer tube (28); and a sleeve tube (108) insertable into the connector body (22) for holding the coaxial cable

(100). Holliday lacks an annular groove formed on an inner surface of the cylindrical body and proximate to the first end. It would have been obvious to one having ordinary skill at the time the invention was made to rearrange the an annular groove on an outer surface of the cylindrical body of Holliday to be on the inner surface of connector body and an annular bugle on an inner surface of the connector body to be on the outer surface of cylindrical body; since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70.

In regarding to claim 12, Holliday discloses the fitting member further comprising an inner tube (30) having a clamp head (F1), a shoulder (H1) extending from the clamp head (F1) and a sleeve (24) extending from the shoulder (H1) forming a tube body (of 30) for receiving a free end of the electrically conductive member of the coaxial cable (100) therethrough, wherein the shoulder (H1) has a diameter substantially corresponding to an inner diameter of the neck portion (D1) of the outer tube (28) so as to engage with the neck portion (D1) when the inner tube (30) is inserted into the outer tube (28) (attachment 3).

In regarding to claim 13, Holliday discloses the fitting member further (attachment 3) comprising a connector head (20) having a neck portion (60), a body (70) extending from the neck portion (60), and a clamp ring (G1) extending from the body (70), wherein the clamp ring (G1) has a (inner) diameter less than an inner diameter of the body (70) and is sized to fit to the neck portion (D1) of the outer tube (28) such that the connector head (20) is rotatable around an axis of the outer tube (28).

In regarding to claim 14, Holliday discloses the fitting member further (attachment 3 of figure 2) wherein the exterior of the body (70) is formed with a plurality of hexagonal surfaces.

In regarding to claim 17, Holliday discloses the fitting member (figure 2) wherein the connector body comprises an inner conical portion (inclined surface 88) proximate from between the connector body (22) to the second end (B1) and extending toward to the second end (B1) from a first (inner) diameter (of 22) at least as great as the outer diameter (of 28) of the outer tube (28) to a second (inner) diameter (of 108) less than the outer diameter (of 28) of the outer tube (28), the second (inner) diameter (of 108) substantially corresponding to an outer diameter of the coaxial cable (100).

5. Claims 15-16, are rejected under 35 U.S.C. 103(a) as being unpatentable over Holliday (US6089913) in view of Holland et al (US6217383B1).

In regarding to claims 15 and 16, Holliday discloses lacks a sealing member position at the clamp head. However, teaches the fitting member further (figure 1) further comprising a sealing member (41) positioned on the clamp head (F) of the inner tube (35) (figures 2-3) and the sealing member (41) comprises an O-ring (column 5, line 23). It would have been obvious to one having ordinary skill at the time the invention was made to modify the fitting member of Holliday by providing the sealing member on the clamp head of the inner tube as taught by Holland et al for increasing the connection between the connector head and the inner tube.

Allowable Subject Matter

6. Claim 20-21 are allowed.

7. Claims 8, 9, 10 and 18-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter:

In regarding to claims 8 and 20, none of prior art teaches or suggest the fitting member comprises a flange outwardly projecting away from the junction of the neck portion and the first shoulder, having a diameter greater than either of the diameter of the first shoulder and a diameter of the neck portion to form a second step at the junction of the first shoulder; and a third step at the junction of the flange and the neck portion arranged as claimed.

In regarding to claims 9 and 18, none of prior art teaches or suggest the fitting member comprises a plurality of annular serrations sequentially formed on an inner surface of the sleeve tube.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuongchi Nguyen whose telephone number is (571) 272-2012. The examiner can normally be reached on 8:00AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula Bradley can be reached on (571) 272-2800 ext 33. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PCN

June 29, 2004

ROSS GUSHI
PRIMARY EXAMINER

Attachment 1

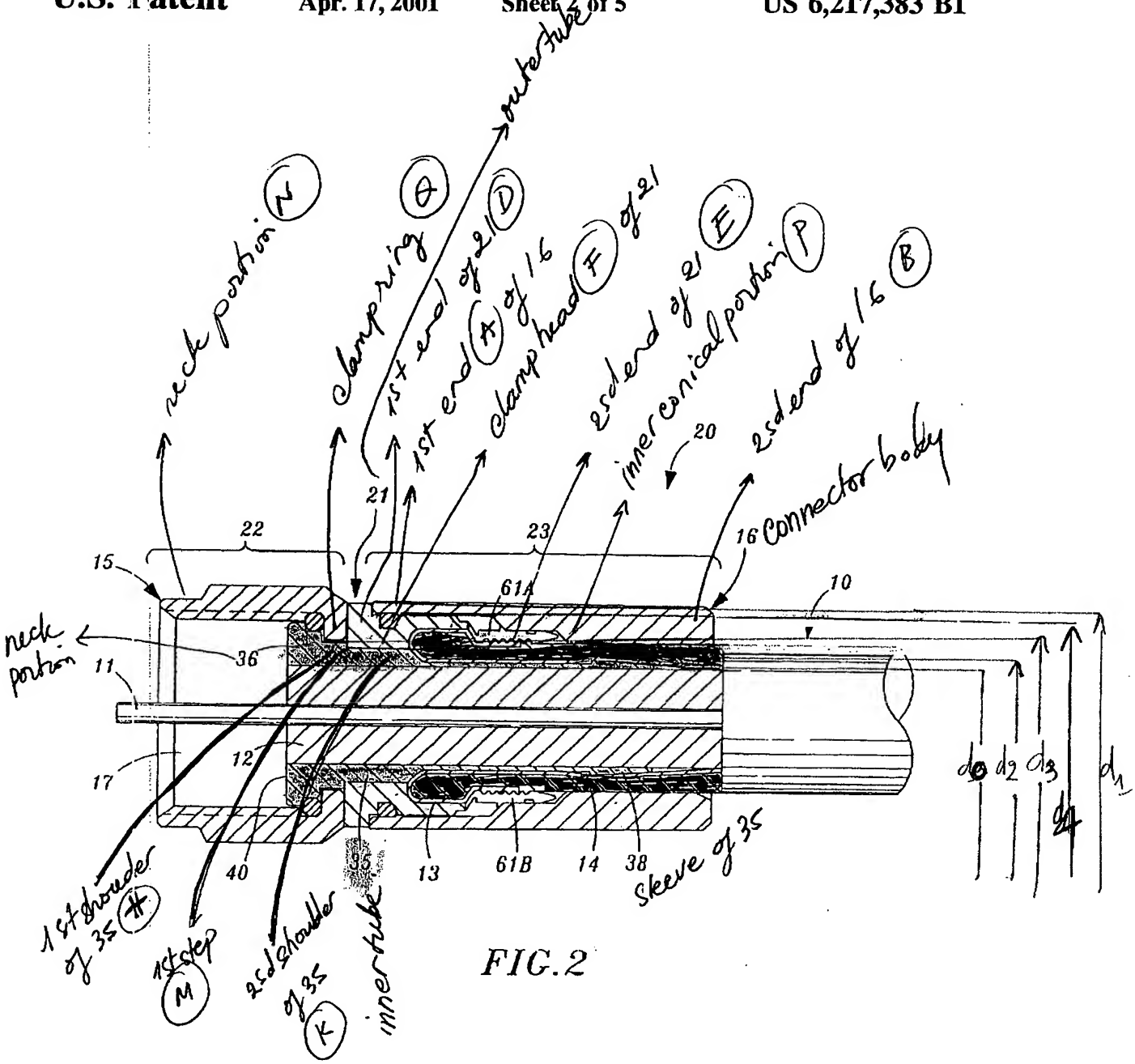

FIG. 2

Attachment 2

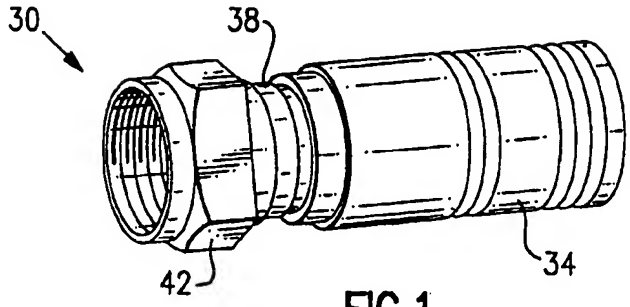

FIG.1

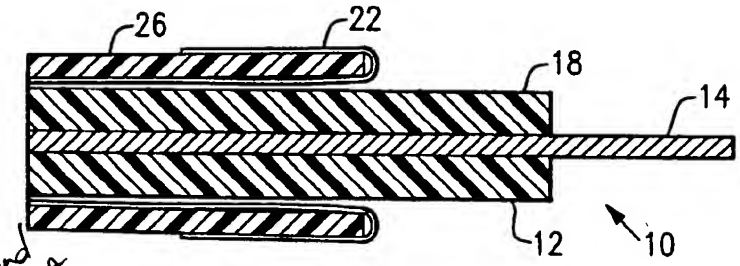

FIG.6

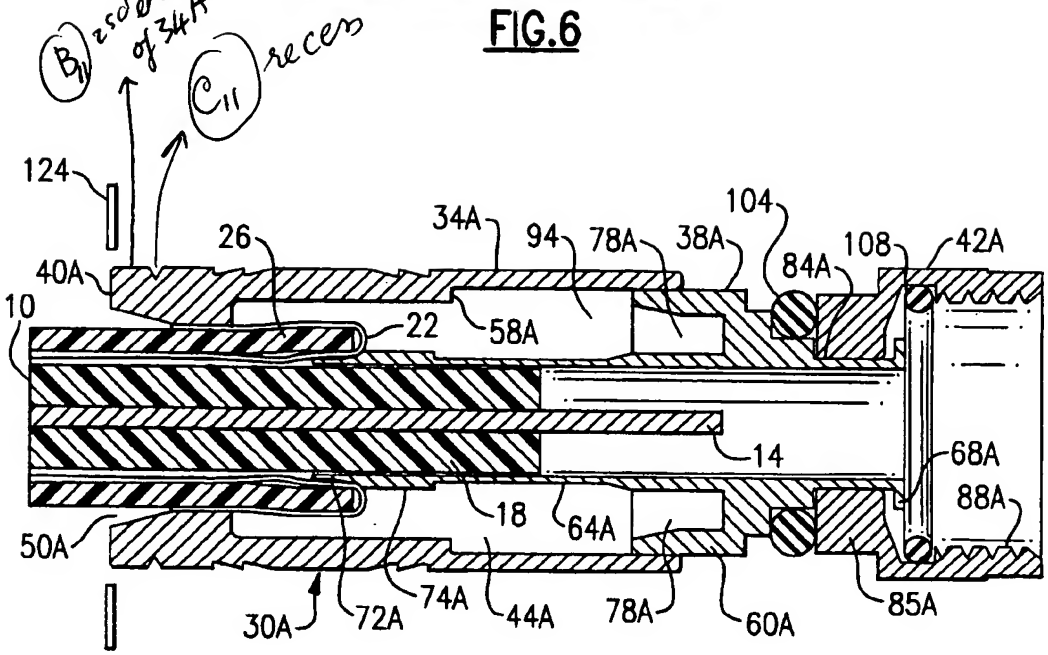

FIG.7

Attachment 3

US006089913A

United States Patent [19]

Holliday

[11] Patent Number: 6,089,913

[45] Date of Patent: Jul. 18, 2000

[54] **END CONNECTOR AND CRIMPING TOOL FOR COAXIAL CABLE**

[76] Inventor: **Randall A. Holliday**, 11047 Tennyson Pl., Westminster, Colo. 80030

[21] Appl. No.: **09/150,154**

[22] Filed: **Sep. 9, 1998**

Related U.S. Application Data

[63] Continuation-in-part of application No. 08/747,539, Nov. 12, 1996, Pat. No. 5,863,220.

[51] **Int. Cl.**[7] **H01R 9/05**

[52] **U.S. Cl.** **439/584**; 439/462

[58] **Field of Search** 439/584, 578, 439/583, 585, 320, 321, 461, 462

[56] **References Cited**

U.S. PATENT DOCUMENTS

4,655,159	4/1987	McMills	439/584
5,392,508	2/1995	Holliday et al.	29/751
5,501,616	3/1996	Holliday	439/585
5,586,910	12/1996	Del Negro et al.	439/584
5,743,131	4/1998	Holliday et al.	72/409.1
5,899,769	5/1999	Kohetschny et al.	439/578

FOREIGN PATENT DOCUMENTS

3211008	10/1983	Germany	439/578
2249433	5/1992	United Kingdom	439/578
2277207	10/1994	United Kingdom	439/578

Primary Examiner—Gary F. Paumen
Assistant Examiner—Tho D. Ta
Attorney, Agent, or Firm—John E. Reilly

[57] **ABSTRACT**

A fitting for connecting a coaxial cable to a terminal or to another coaxial cable is made up of a connector body, an outer sleeve extending from one end of the connector body for insertion of an end of the cable, and a crimping member is loosely connected to the outer sleeve and has a tapered annular portion which in response to engagement by a compression tool will undergo axial movement with respect to the outer sleeve member and impart inward radial deformation to the outer sleeve member into sealed engagement with an external surface of the cable. In a modified form for splicing two cables together, the connector body is provided with outer sleeve members at opposite ends into which the ends of the coaxial cables are inserted and crimping members for crimping both of the sleeve members into sealed engagement with each of the respective cables.

23 Claims, 4 Drawing Sheets